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(12) UK Patent Application (19) GB (11) 2 025 860 A

(21) Application No 7909701
 (22) Date of filing 20 Mar 1979
 (23) Claims filed 20 Mar 1979
 (30) Priority data
 (31) 2812050
 (32) 20 Mar 1978
 (33) Fed. Rep. of Germany (DE)
 (43) Application published
 30 Jan 1980
 (51) INT CL

B62B 3/00

(52) Domestic classification
 B7B 367 TN TX2

(56) Documents cited
 GB 1428753
 GB 1382806
 GB 1281398
 GB 760550
 GB 661981
 GB 573858

(58) Field of search
 B7B

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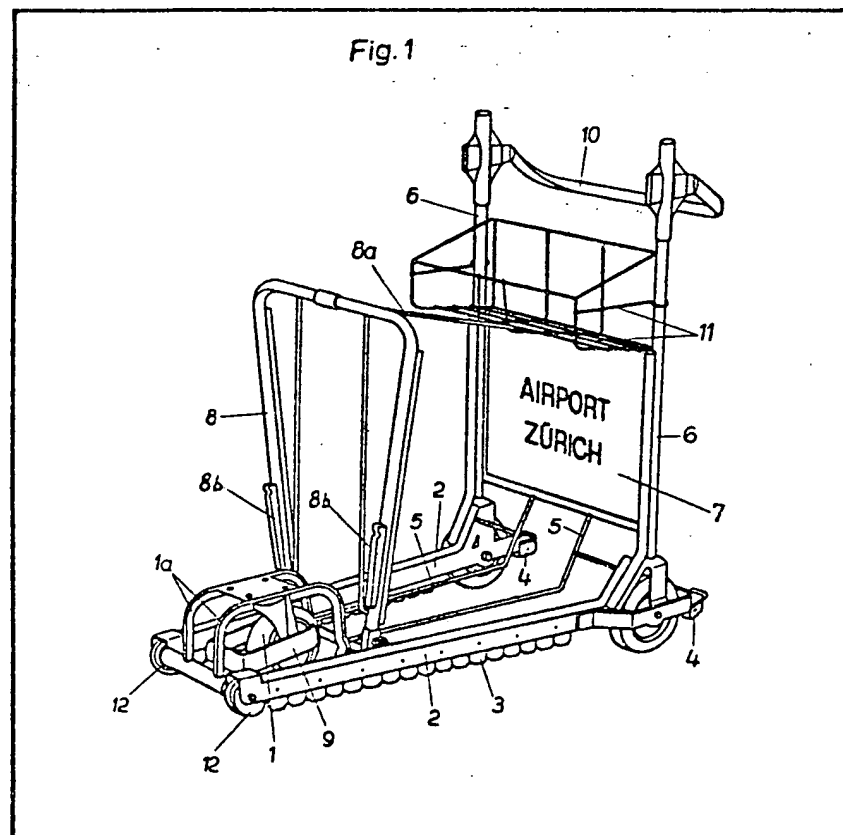
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(54) Luggage Trolley

(57) A luggage trolley comprises a luggage support (2) tapered towards the front and carried by two rear wheels and a castored wheel (1) at the front, the castored wheel (1) being mounted on a bearing element

projecting above the height of the support (2) such that the centre of gravity of the trolley lies below the mounting of the castored wheel (1). An opening between two bars (5) of the support (2) allows entry of the castored wheel of another similar trolley when resting takes place.



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Fig. 1

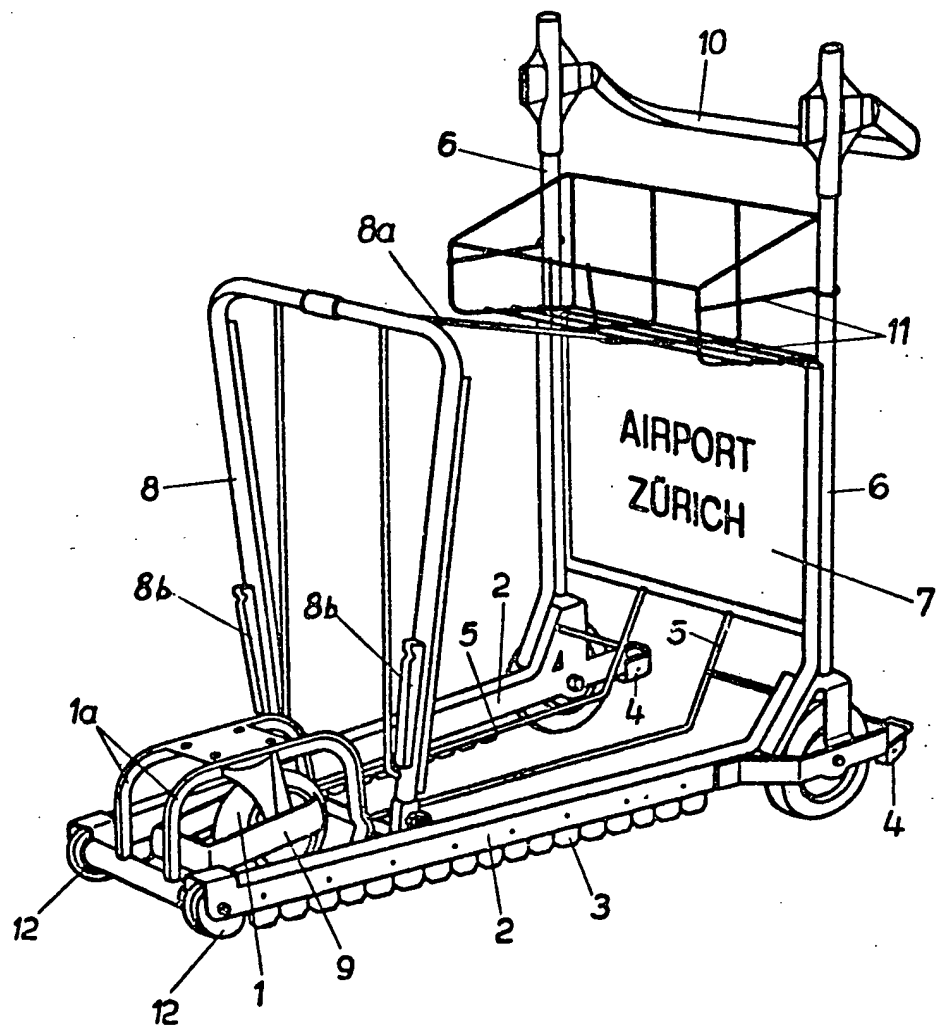


Fig. 2

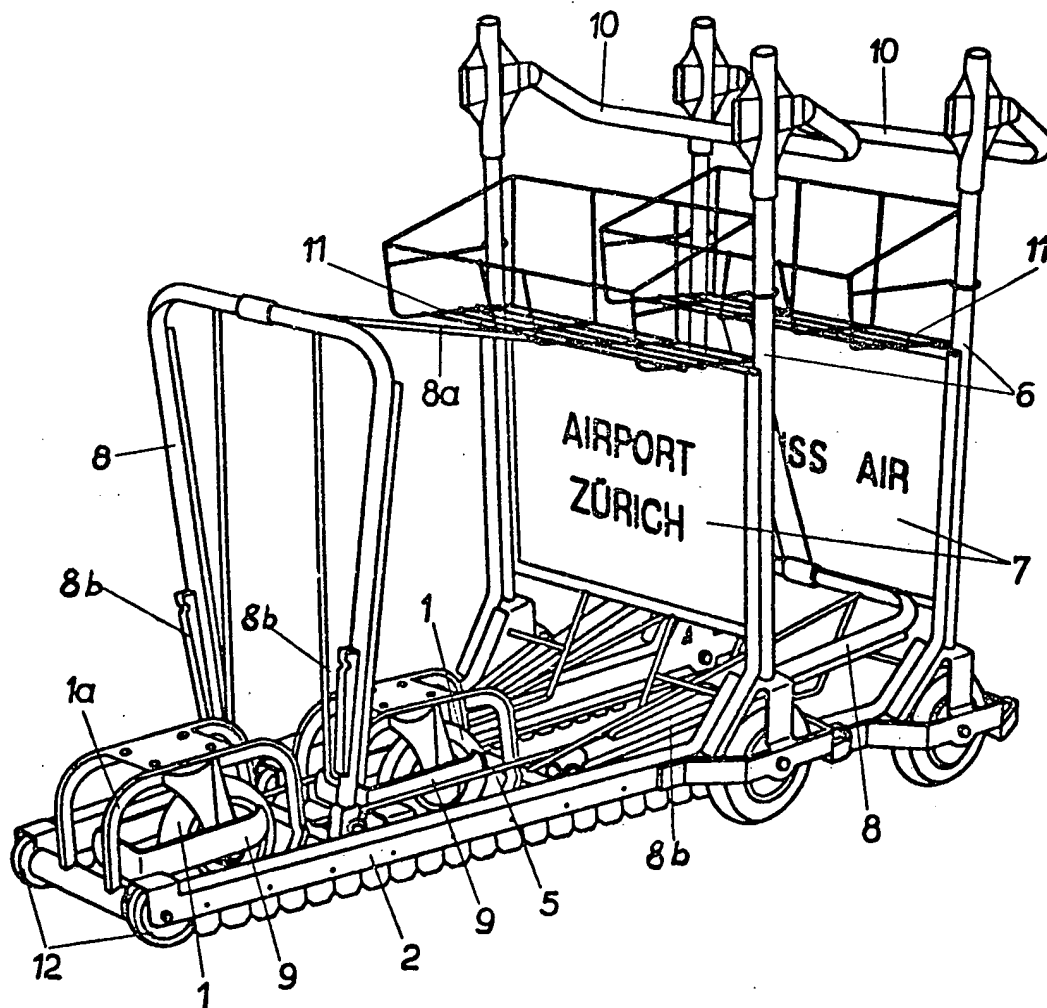
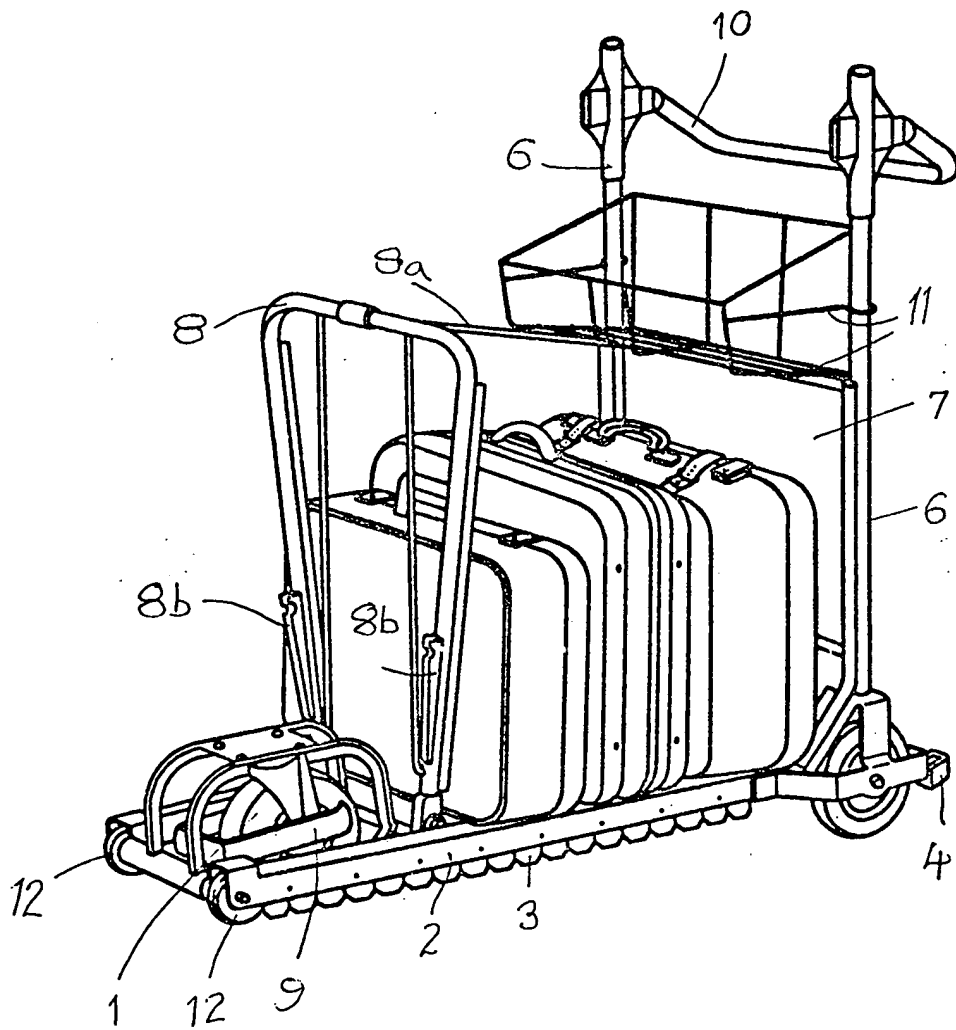


Fig. 3



SPECIFICATION

A Luggage Trolley

For a fairly long time now luggage trolleys have been known in customs clearance halls of air terminal buildings and at railway stations and they are enjoying increasing popularity in view of the shortage of luggage porters.

These so-called "luggage caddies" do however have a load surface which, determined by its design, is arranged higher than the level of the steering castor or castors. This means that with a loaded luggage trolley its high centre of gravity reduces its stability to such an extent that its use on routes requiring passage of escalators are impassable or only passable if a high risk of accident is accepted.

This undesirable state of affairs could be improved by constructing luggage trolleys with a chassis carrying three wheels or castors, the foremost of which is constructed as a steering castor which ensures that the laden trolley can be pushed and manoeuvred more easily than is the case with a four-wheeled design, and by movably mounting support and abutment wire lattices so that they fold to enable insertion of one trolley into an adjacent trolley for stacking when not in use one inside the other. The centre of gravity of the laden device would be made lower in desired manner by this type of embodiment.

The disadvantage of this design, however, lies in the mounting of the support and abutment wire lattices so as to be movable between the support and the strut tubes. With the large number of movable members, the production cost are relatively high and repair is not infrequently required. Moreover, the maintenance and running costs are greater than in the case of devices which have fewer moving parts. In addition, there is the fact that, when using these devices, they rattle in a manner which cannot be avoided and this is disturbing in rest areas and customs clearance halls.

The invention therefore seeks to create a luggage trolley which eliminates or reduces the disadvantages of the previously known luggage trolleys and which ensures risk-free use on most means of transport, including escalators.

According to the invention, there is provided a stackable luggage trolley comprising a support tapered towards the front and carried by two wheels at the rear and a castored wheel at the front, wherein the castored wheel is mounted on a bearing element projecting above the height of the support and the support has a longitudinal open portion open to the rear and of a width at least as wide as the bearing element whereby when stacking the trolleys, the bearing element of one trolley can pass along the open portion of a trolley in front thereof to allow stacking.

The invention will now be described in greater detail, by way of example, with reference to the drawings, in which:—

Figure 1 is a perspective view of an unloaded trolley in accordance with the invention;

Figure 2 is a perspective view of two trolleys in a stacked condition, and

Figure 3 is a view similar to Figure 1, but showing the trolley loaded.

Figure 1 shows a luggage trolley in accordance with the invention in its unladen state. A steering castor 1 is arranged in the foremost part between a support 2 which tapers in wedge shape towards the front i.e. in the direction of travel. It is mounted on a bearing block 1a which projects above the support such that the centre of gravity of the luggage trolley lies below the bearing of the steering castor.

This design ensures stability in most transport situations, even on escalators, as has always been desired but previously could not be achieved. In addition, ribs 3 made of resilient material, rubber for example, are located on the underside of the support 2, these ribs remaining hanging over the front edges of the steps of the escalator when using the trolley on escalators and thus the trolley cannot slip off. At the rear end of the support 2, so called deflector bars 4 are arranged which increase stability and prevent the laden device from tipping over backwards as the escalator moves upwards.

Instead of the previously known supporting wire lattice, which was mounted movably and too high round iron bars 5, firmly welded to the support are used instead. Similarly a firmly mounted plate 7 made from impact-proof and scratch-proof plastics material replaces the abutment wire lattice mounted so as to be movable between the struts 6, this plate ensuring abutment of the items of luggage at the strut side of the trolley. This plate, as compared to the abutment wire lattice known previously, has the advantage that it can be used additionally on both sides as a surface for advertising.

The front luggage abutment 8 is connected pivotably to the support 2 so that it may fold back automatically when pushing trolleys into each other for "stacking" when not in use. This is shown clearly in the Figure 2 of the drawings.

Plastics sliding surfaces 8b are arranged on the front lower part of the luggage abutment 8 to facilitate simpler and less noisy collapsing of the luggage abutment 8 during "stacking".

A strap 8a extending from a basket 11 mounted on the struts 6, is fixed to the upper end of the front luggage abutment 8 to protect the luggage abutment from overloading and preventing excessive build-up of suitcases or baggage. Moreover, it prevents coats or blankets from sliding down because of its coarse texture, and this is contrary to the situation existing in the case of a possible embodiment with a metal rod.

In order to prevent the steering castor 1 from locking when stacked, guides 9 provided with plastics sliding surfaces are arranged on its sides, these guides sliding along the round iron bars 5 which serve as a guide when stacking and prevent the steering castor 1 from turning about its castoring axis.

It is important and worth mentioning that

when the trolleys are stacked the rear wheels of the front trolley are raised by the collapsed luggage abutment of the rear trolley and so the wheels lose their braking effect.

5 Moreover the luggage trolley is provided with a braking device which is constructed as a locking brake and can only be released by actuating the handle lever 10, either downwardly or upwardly.

10 In addition a fairly small basket 11, which is designed to hold bags or small hand luggage, is located between the struts 6 and above the abutment plate 7.

15 In order to prevent the trolley from ever tipping over when transporting luggage downwards on escalators and putting the trolley back onto the floor, small auxiliary wheels 12 are arranged to each side of an extension of the support. these rollers 12 making it possible to move the trolley off the escalator in a straight line even in the case of a luggage trolley which has been moved onto the escalator at an angle.

A luggage trolley in accordance with the invention is shown in its loaded state in Figure 3.

Claims

25 1. A stackable luggage trolley comprising a support tapered towards the front and carried by two wheels at the rear and a castored wheel at the front, wherein the castored wheel is mounted on a bearing element projecting above the height of the support and the support has a longitudinal open portion open to the rear and of a width at least as wide as the bearing element whereby, when stacking the trolleys, the bearing element of one trolley can pass along the open portion of a trolley in front thereof, to allow stacking.

2. A luggage trolley comprising a support tapered towards the front and carried by two wheels at the rear and a castored wheel at the front wherein the castored wheel is mounted on a bearing element projecting above the height of the support such that the centre of gravity of the trolley lies below the mounting of the castored wheel.

3. A luggage trolley according to Claim 2, wherein guides provided with a plastics sliding layer are arranged at the sides of the castored wheel for sliding along bars of the support of a second luggage trolley which act as guides when stacking the trolleys, the castored wheel being restrained thereby so that it cannot be turned about its casting axis.

4. A luggage trolley according to Claim 1, 2 or 3, wherein ribs made from resilient material are arranged on the underside of the support.

5. A luggage trolley according to Claim 4, wherein the ribs are made of rubber.

6. A luggage trolley according to any one of Claims 1 to 5 wherein, in order to increase the stability of the luggage trolley when transporting luggage upwards on an escalator, so-called deflector bars are arranged on both sides of the rear end of the support to prevent the trolley from tipping backwards.

7. A luggage trolley according to Claim 6, wherein small auxiliary wheels are arranged at both sides at the front part of an extension of the support, to enable the trolley to be pushed off an escalator in straight line when the trolley is removed from a down escalator even when the luggage trolley is at an angle.